

IN THE CLAIMS:

Please cancel Claims 31-34 without prejudice to or disclaimer of the subject matter contained therein.

Please amend Claims 24 and 27 as follows:

24. (Twice Amended) A method for immunization, prophylaxis or treatment of a vertebrate at risk of or suffering from a disease caused by a pathogenic micro-organism comprising the steps of:

- a) extracting deoxyribonucleic acid from the pathogenic micro-organism;
- b) identifying at least one gene encoding at least one antigen from the deoxyribonucleic acid, wherein said at least one antigen is capable of stimulating protective immunity against the pathogenic micro-organism;
- c) inserting the at least one gene into a multicopy plasmid capable of replicating and expressing in the pathogenic micro-organism;
- d) transforming an attenuated or avirulent strain of the otherwise pathogenic micro-organism with the plasmid to form a vaccine; and
- e) administering an effective amount of said vaccine to the vertebrate.

27. (Twice Amended) A method for immunization, prophylaxis or treatment of a vertebrate at risk of or suffering from a disease caused by a pathogenic micro-organism comprising the steps of:

*Brucella*

a) extracting deoxyribonucleic acid from the pathogenic micro-organism; 7

b) identifying at least one gene encoding at least one antigen from the deoxyribonucleic acid wherein said at least one antigen is capable of stimulating protective immunity against the pathogenic micro-organism;

B<sup>3</sup> c) inserting the at least one gene into a multicopy plasmid capable of replicating and expressing in the pathogenic micro-organism; 7

d) transforming an attenuated or avirulent strain of the otherwise pathogenic micro-organism with the plasmid to form a vaccine; and

e) administering an effective amount of said vaccine to the vertebrate,

wherein the pathogenic micro-organism is *Brucella* selected from the group consisting of *B. abortus*, *B. melitensis*, *B. suis*, *B. ovis*, *B. neotomae* and *B. canis*.

*representative  
species*